

*Amendment and Response to June 13, 2003 Office Action  
Mickle et al.  
U.S.S.N. 09/363,100*

**IN THE CLAIMS:**

Please amend claim 6 as set forth below.

**Listing of Claims**

1. (Twice Amended) A method for improving heart function in a patient having cardiac scar tissue, said method comprising administering to said cardiac scar tissue a cellular suspension containing mesenchymal stem cells, wherein said administered cells survive in said cardiac scar tissue and improve heart function in said patient.
2. (Twice Amended) The method of claim 1, wherein said mesenchymal stem cells have been induced to differentiate into cardiomyogenic cells prior to administration.
3. (Cancelled)
4. (Twice Amended) The method of claim 1, wherein said mesenchymal stem cells have been cultured for at least 7 days prior to administration.
5. (Twice Amended) The method of claim 2, wherein said mesenchymal stem cells have been induced to differentiate by co-culture with cardiomyocytes.
6. (Twice Amended) The method of any one of claims [1-2, 4-5 and 7-11,] 1, 2, 4, 5 or 7-11 wherein said mesenchymal stem cells are autologous to the patient being treated.
7. (Once Amended) The method of claim 2, wherein said differentiation is induced by contacting said mesenchymal stem cells with 5-azacytidine or an analog thereof, prior to administration.

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8. (Original) The method of claim 7, wherein said 5-azacytidine or said analog thereof is present at a concentration of 1 to 100  $\mu$ M.
9. (Original) The method of claim 8, wherein said 5-azacytidine or said analog thereof is present at a concentration of 10  $\mu$ M.
10. (Original) The method of claim 1, wherein said mesenchymal stem cells are isolated from bone marrow.
11. (Original) The method of claim 1, wherein said administering is by injecting.
12. (Cancelled)
13. (Cancelled)
14. (Withdrawn) A method of obtaining a population of cells containing cardiomyogenic cells, said method comprising:
  - a) obtaining mesenchymal stem cells;
  - b) exposing said mesenchymal stem cells to 5-azacytidine or an analog thereof, wherein said exposing is sufficient to obtain at least one cardiomyogenic cell; and
  - c) placing said cells from step b) into a medium suitable for injecting the cells into damaged or scarred myocardium.
15. (Withdrawn) The method of claim 14, wherein said mesenchymal stem cells are exposed for at least 7 days.
16. (Withdrawn) The method of claim 15, wherein the concentration of said 5-azacytidine or said analog thereof is between 1 and 100  $\mu$ M.
17. (Withdrawn) The method of claim 16, wherein said concentration is

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10 uM.

18. (Withdrawn) The method of claim 14, wherein at least one mesenchymal stem cell differentiates into a cardiomyogenic cell.

19. (Withdrawn) The method of claim 14, wherein at least one mesenchymal stem cell differentiates into an endothelial cell.

20. (Withdrawn) The method of claim 14, wherein said mesenchymal stem cells are isolated from bone marrow.

21. (Withdrawn) The method of claim 14, wherein said mesenchymal stem cells are not passaged.

22. (Withdrawn) A therapeutic composition comprising mesenchymal stem cells and a pharmaceutically acceptable carrier appropriate for injection of the cells into damaged or scarred myocardium.

23. (Withdrawn) The therapeutic composition of claim 22, wherein said mesenchymal stem cells have been exposed to 5-azacytidine or an analog thereof.

24. (Withdrawn) The therapeutic composition of claim 22, wherein said mesenchymal stems cells have not been passaged.

25-30. (Cancelled)